

## SMD 0603 Multilayer Varistor



### FEATURES

- Surface mount multilayer surge suppressor
- Inherent bidirectional clamping
- Excellent energy/volume ratio
- Suitable for reflow soldering
- Compliant to RoHS directive 2002/95/EC and in accordance to WEEE 2002/96/EC



**RoHS**  
COMPLIANT

QUICK REFERENCE DATA		
PARAMETER	VALUE	UNIT
Maximum Continuous Voltage DC AC	5.6 to 30.0 4.0 to 25.0	V
Maximum Clamping Voltage at 1 A	15.5 to 65	V
Capacitance Range (at 1 MHz)	150 to 825	pF
Maximum Energy (10/1000 $\mu$ s)	0.1	J
Maximum Peak Current	30	A
Operating Temperature Range	- 55 to 125	$^{\circ}$ C
Climatic Category	55/125/56	
Weight	$\pm$ 0.005	g

### APPLICATIONS

Over-voltage and transient voltage protection:

- Data lines and I/O port protection
- Protection against ESD transients
- On-board protection of IC's and transistors
- Modem protection
- LCD protection

### DESCRIPTION

Size 0603 (1608M) multilayer chip varistor with NiSn terminations.

### PACKAGING

Available in 8 mm paper tape and reel.

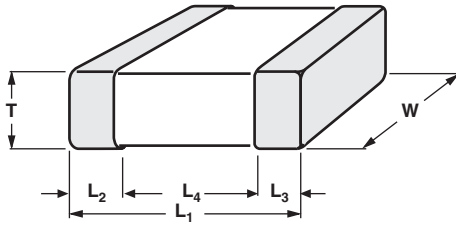
### ELECTRICAL DATA AND ORDERING INFORMATION

WORKING VOLTAGE		BREAKDOWN VOLTAGE (1 mA)	MAXIMUM CLAMPING VOLTAGE (1 A)	TYPICAL CAPACITANCE (1 MHz)	PART NUMBER	
$V_{RMS}$	$V_{DC}$	$V_b$	$V_c$	C	12NC	SAP
V	V	V	V	pF	2381 553	MLV0603E3
4.0	5.6	7.1 to 9.3	15.5	825	30406	0403T
7.0	9.0	11.0 to 14.0	20.0	550	30706	0703T
11.0	14.0	16.0 to 20.0	30.0	425	31106	1103T
14.0	18.0	23.0 to 28.0	40.0	225	31406	1403T
20.0	26.0	31.0 to 38.0	58.0	160	32006	2003T
25.0	30.0	37.0 to 46.0	65.0	150	32506	2503T

#### Notes

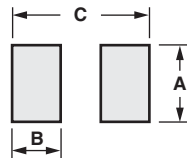
- Sinusoidal voltage assumed as normal operating condition.  
If a non-sinusoidal voltage is present, the crest voltage x 0.707 should be used for type selection.
- Voltage at a current of 1 mA, measured according to 4.3 of CECC 42 000.
- Parts are not recommended for automotive applications.

**DIMENSIONS** in millimeters



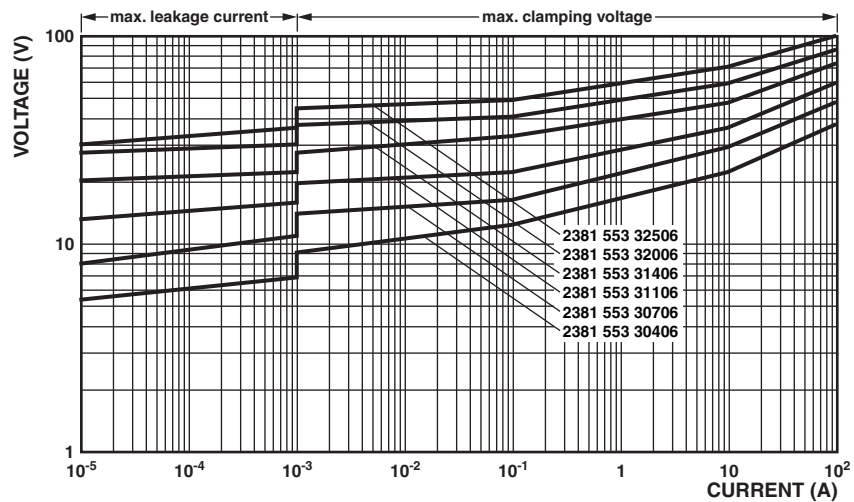
L <sub>1</sub>	W	T	L <sub>2</sub> and L <sub>3</sub>
1.6 ± 0.15	0.8 ± 0.15	0.9 max.	0.35 ± 0.15

**RECOMMENDED FOOTPRINT** in millimeters



A	B	C
1.0	1.0	3.0

**V/I CHARACTERISTICS**





## Disclaimer

All product specifications and data are subject to change without notice.

Vishay Intertechnology, Inc., its affiliates, agents, and employees, and all persons acting on its or their behalf (collectively, "Vishay"), disclaim any and all liability for any errors, inaccuracies or incompleteness contained herein or in any other disclosure relating to any product.

Vishay disclaims any and all liability arising out of the use or application of any product described herein or of any information provided herein to the maximum extent permitted by law. The product specifications do not expand or otherwise modify Vishay's terms and conditions of purchase, including but not limited to the warranty expressed therein, which apply to these products.

No license, express or implied, by estoppel or otherwise, to any intellectual property rights is granted by this document or by any conduct of Vishay.

The products shown herein are not designed for use in medical, life-saving, or life-sustaining applications unless otherwise expressly indicated. Customers using or selling Vishay products not expressly indicated for use in such applications do so entirely at their own risk and agree to fully indemnify Vishay for any damages arising or resulting from such use or sale. Please contact authorized Vishay personnel to obtain written terms and conditions regarding products designed for such applications.

Product names and markings noted herein may be trademarks of their respective owners.